

ABSTRACT OF THE DISCLOSURE

Methods and apparatus are disclosed for enabling nodes in a data network having interconnect links to continue to transmit data when a link fails. This is done in realtime, in a manner transparent to upper-level clients, and at a hardware level without software intervention. A method is described in which a data packet is received or stored in a transmitter buffer at an originating node having a failed link where the data packet is scheduled to use the failed link. The data packet is routed to a failover storage area. The failover storage area is a shared resource in the node and consists of two first-in, first-out stacks for processing and routing the failover data packets. If needed, an alternative link is selected for the data packet and the data packet is routed to a transmitter associated with the alternative link. An alternative link is selected using a primary and secondary routing table, also part of the shared resource of the node. The data packet is then transmitted to a receiver for the alternative link at a destination or multihop node. This allows the data packet to reach the remote end of a failed link by sharing alternate links connecting the local and remote ends of a failed link.

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